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NEW YORK STATE DEPT OF ENVIRONMENTAL CONSERVATION ALBANY F/8 13/13
NATIONAL DAM SAFETY PROGRAM, GENEGANTSLET LAKE DAM (INVENTORY N--ETC(U)
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20. ABSTRACT (Continue on reverse side if necessary and identify by block number) This report provides information and analysis on the physical condition of the dam as of the report date. Information and analysis are based on visual inspection of the dam by the performing organization. Examination of available documents and a visual inspection of the dam did not reveal conditions which constitute an immediate hazard to human life or property. However, the dam has some deficiencies which need to be evaluated and remedied.		

cont

Using the Corps of Engineers' Screening Criteria for initial review of spillway adequacy, it has been determined that the dam would be overtopped by all storms exceeding 5% of the Probable Maximum Flood (PMF) inflows. While this dam has withstood overtopping in the past, it cannot be assumed that overtopping will not eventually cause the dam to fail. Since failure of the dam would increase the hazard to downstream residents, the spillway capacity is adjudged as seriously inadequate and the dam is assessed as "unsafe, non emergency".

The classification of "unsafe" applied to a dam because of a seriously inadequate spillway is not meant to connote the same degree of emergency as would be associated with an "unsafe" classification applied for a structural deficiency. It does mean that there appears to be a serious deficiency in spillway capacity and if a severe storm were to occur, overtopping and failure of the dam could take place, significantly increasing the hazard to loss of downstream of the dam.

Inspection of the dam also revealed that there was a seepage problem on this structure. Seepage was exiting on the downstream slope and at the toe in the embankment section at the right end of the dam. There were also several locations where leakage was noted through the laid up stone portion of the dam.

It is recommended that within 3 months of the date of notification of the owner, a hydrologic/hydraulic investigation of the structure should be commenced. Investigation into the seepage problem should also be commenced within 3 months. Mitigating measures deemed necessary as a result of these investigations should be completed within 18 months.

Several other deficiencies were noted on this structure. These should be corrected within 12 months of the date of notification. Among the items which should be corrected are the eroded area on the downstream slope at the left end of the dam, gaps between sections of pipe which need to be filled with mortar, displaced stones on the laid up stone portion of the dam, brush and small trees growing on the embankment, an outlet channel from the spillway

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AD A106050

**SUSQUEHANNA RIVER BASIN
GENEGANTSLET LAKE DAM**

**CHENANGO COUNTY, NEW YORK
INVENTORY NO. N.Y. 846**

**PHASE I INSPECTION REPORT
NATIONAL DAM SAFETY PROGRAM**



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**NEW YORK DISTRICT CORPS OF ENGINEERS
FEBRUARY, 1981**

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PREFACE

This report is prepared under guidance contained in the Recommended Guidelines for Safety Inspection of Dams, for Phase I Investigations. Copies of these guidelines may be obtained from the Office of Chief of Engineers, Washington, D.C. 20314. The purpose of a Phase I Investigation is to identify expeditiously those dams which may pose hazards to human life or property. The assessment of the general condition of the dam is based upon available data and visual inspections. Detailed investigation, and analyses involving topographic mapping, subsurface investigations, testing, and detailed computational evaluations are beyond the scope of a Phase I Investigation; however, the investigation is intended to identify any need for such studies.

In reviewing this report, it should be realized that the reported condition of the dam is based on observations of field conditions at the time of inspection along with data available to the inspection team. In cases where the reservoir was lowered or drained prior to inspection, such action, while improving the stability and safety of the dam, removes the normal load on the structure and may obscure certain conditions which might otherwise be detectable if inspected under the normal operating environment of the structure.

It is important to note that the condition of a dam depends on numerous and constantly changing internal and external conditions, and is evolutionary in nature. It would be incorrect to assume that the present condition of the dam will continue to represent the condition of the dam at some point in the future. Only through frequent inspections can unsafe conditions be detected and only through continued care and maintenance can these conditions be prevented or corrected.

Phase I inspections are not intended to provide detailed hydrologic and hydraulic analyses. In accordance with the established Guidelines, the Spillway Test flood is based on the estimated "Probable Maximum Flood" for the region (greatest reasonably possible storm runoff), or fractions thereof. Because of the magnitude and rarity of such a storm event, a finding that a spillway will not pass the test flood should not be interpreted as necessarily posing a highly inadequate condition. The test flood provides a measure of relative spillway capacity and serves as an aide in determining the need for more detailed hydrologic and hydraulic studies, considering the size of the dam, its general condition and the downstream damage potential.

PHASE I INSPECTION REPORT
NATIONAL DAM SAFETY PROGRAM
GENEGANTSLET LAKE DAM
SUSQUEHANNA RIVER BASIN
CHENANGO COUNTY, NEW YORK

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Phase I Inspection Report
National Dam Safety Program

Name of Dam: Genegantslet Lake Dam (I.D. NY 846)
State Located: New York
County : Chenango
Watershed: Susquehanna River Basin
Stream: Unnamed tributary of Genegantslet Creek
Date of Inspection: October 22, 1980

ASSESSMENT

Examination of available documents and a visual inspection of the dam did not reveal conditions which constitute an immediate hazard to human life or property. However, the dam has some deficiencies which need to be evaluated and remedied.

Using the Corps of Engineers' Screening Criteria for initial review of spillway adequacy, it has been determined that the dam would be overtopped by all storms exceeding 5% of the Probable Maximum Flood (PMF) inflows. While this dam has withstood overtopping in the past, it cannot be assured that overtopping will not eventually cause the dam to fail. Since failure of the dam would increase the hazard to downstream residents, the spillway capacity is adjudged as seriously inadequate and the dam is assessed as "unsafe, non emergency".

The classification of "unsafe" applied to a dam because of a seriously inadequate spillway is not meant to connote the same degree of emergency as would be associated with an "unsafe" classification applied for a structural deficiency. It does mean that there appears to be a serious deficiency in spillway capacity and if a severe storm were to occur, overtopping and failure of the dam could take place, significantly increasing the hazard to loss of downstream of the dam.

Inspection of the dam also revealed that there was a seepage problem on this structure. Seepage was exiting on the downstream slope and at the toe in the embankment section at the right end of the dam. There were also several locations where leakage was noted through the laid up stone portion of the dam.

It is recommended that within 3 months of the date of notification of the owner, a hydrologic/hydraulic investigation of the structure should be commenced. Investigation into the seepage problem should also be commenced within 3 months. Mitigating measures deemed necessary as a result of these investigations should be completed within 18 months.

Several other deficiencies were noted on this structure. These should be corrected within 12 months of the date of notification. Among the items which should be corrected are the eroded area on the downstream slope at the left end of the dam, gaps between sections of pipe which need to be filled with mortar, displaced stones on the laid up stone portion of the dam, brush and small trees growing on the embankment, an outlet channel from the spillway

conduct which runs along the line of the river, and the following is a copy of the
action plan

George Koch

George Koch
Chief, Dam Safety Section
New York State Department
of Environmental Conservation
NY License No. 45937

Approved by:

W. M. Smith, Jr.

Col. W. M. Smith, Jr.
New York District Engineer

Date:

81 MAR 1961



OVERVIEW
GENEGANTSLET LAKE DAM
I.D. No. NY 846

Phase I Inspection Report
National Dam Safety Program
Genegantslet Lake Dam
I.D. No. Ny 846
#94D-3437
Susquehanna River Basin
Chenango County, New York

SECTION 1: PROJECT INFORMATION

1.1 GENERAL

a. Authority

The Phase I inspection reported herein was authorized by the Department of the Army, New York District, Corps of Engineers, to fulfill the requirements of the National Dam Inspection Act, Public Law 92-367.

b. Purpose of Inspection

This inspection was conducted to evaluate the existing conditions of the dam, to identify deficiencies and hazardous conditions, to determine if these deficiencies constitute hazards to life and property, and to recommend remedial measures where required.

1.2 DESCRIPTION OF PROJECT

a. Description of Dam

The Genegantslet Lake Dam is an earth fill and laid up stone dam with a drop inlet spillway and a conduit passing through the embankment.

The dam is approximately 300 feet long and about 10 feet high. The upstream slope of the dam is composed of earth fill. The laid up stone is exposed on the center portion of the downstream face. The earth fill extends over the top of the laid up stone, forming the crest along the entire dam. Earth and rock fill form the downstream slope at either end of the structure.

The spillway consists of a 48 inch reinforced concrete pipe flowing into the base of a drop inlet structure. There are wooden stop logs in the center of the structure which are used to control the water level in the lake. When the stop logs are in place, water must flow over them and then to the outlet pipe. If the stop logs are removed, the 48 inch pipe would act as a reservoir drain.

The top of the drop inlet structure is open to permit flow. The crest on the upstream face is 2 feet below the top of the structure providing additional capacity. All of the openings have screens to prevent debris from entering the drop inlet.

There is a 48 inch concrete outlet pipe leading from the base of the drop inlet to a concrete manhole 25 feet downstream. Another 48 inch pipe extends 116 feet from the manhole to a headwall at the outlet.

b. Location

This dam is located in the Town of Mc Donough, off Moon Hill Road on an unnamed tributary of the Genegantslet Creek. The dam is approximately 3/4 mile north of the village of Mc Donough.

c. Size Classification

The dam is 9.5 feet high and has a storage capacity of 2,000 acre-feet. Therefore, the dam is in the small size category as defined by the "Recommended Guidelines for Safety Inspection of Dams".

d. Hazard Classification

The dam is classified as "high" hazard due to the presence of one house immediately downstream of the dam and 6 additional houses plus one trailer located near the stream channel in the Village of Mc Donough.

e. Ownership

The dam is owned by the Genegantslet Lake Association, Inc. The secretary-treasurer of the association is Frank Ulrichs, 127 South Broad Street, Norwich, New York 13815. Mr. Ulrich's telephone number is (607) 334-3789.

f. Purpose of Dam

The dam is used to maintain the water surface of Genegantslet Lake for recreational purposes.

g. Design and Construction History

This dam was constructed around 1900. No information was available concerning the original design or construction of the dam. In 1947, the owner contracted with Les Strong Construction Company of Whitney Point, New York to perform work designed to reduce the leakage through the dam. This same company made further repairs in 1955. The 1955 work included placing shale fill on the upstream slope to again reduce leakage. A 36 inch iron pipe through the dam was sealed as part of this work, since it was considered to be a major source of the leakage.

Major modifications to the structure were made in 1965. At that time, clay fill was placed on the upstream face and the new conduit was installed to provide some control over the lake level. The design engineer for these modifications was Mr. Carl Crandall, P.E., of Ithaca, New York.

h. Normal Operating Procedures

Stop logs to within about $\frac{1}{2}$ foot of the lower crest of the drop inlet maintain the water surface at approximately this elevation from April thru October. In October, three stop logs (2 inch by 12 inch) are removed to lower the water surface during the winter months.

1.3 PERTINENT DATA

a. Drainage Area (sq. mi.) 5.04

b. Discharge at Dam (cfs)
Water Surface at Top of Dam 55

c. Elevations- (Plan Datum)
Top of Dam and Top of Drop Inlet 101.3
Crest of Drop Inlet 99.3
Invert of Inlet Pipe 90.3
Invert of Outlet of Pipe 90.3

d. Reservoir-Surface Area (acres)

Top of Dam	114
Crest of Drop Inlet	105

e. Storage Capacity (acre-feet)

Top of Dam	1969
Crest of Drop Inlet	1750

f. Dam

Type: Laid up stone and earth embankment

Dam Length (ft)	300
Crest Width (ft)	35

g. Spillway

Type: Concrete drop inlet approximately 6 ft. by 6 ft, rising 11 feet above the invert of 48 inch diameter concrete pipes on both upstream and downstream ends. Stop logs in center of structure can be used to control water surface.

Weir length (ft): low level	6.1
Conduit length (ft): upstream of drop inlet	31
downstream of drop inlet	142

h. Reservoir Drain

Type: 48 inch concrete conduit into drop inlet

Control: Stop logs can be removed down to invert elevation.

SECTION 2: ENGINEERING DATA

2.1 GEOTECHNICAL DATA

a. Geology

The Ganegantslet Lake Dam is located in the Glaciated Allegheny Plateau of physiographic province of New York State. This plateau is underlaid by a great thickness of sedimentary rocks from the Devonian Era which lie almost horizontal. Severe trenching by streams and glacial erosion has carved the upland into a rugged terrain. The Susquehanna Hills rise to elevations of up to 1700 feet between the rolling, relatively narrow valleys. The surficial soils and features of the area are the result of glaciations during the Cenozoic Era, the last of which was the Wisconsin glaciation.

A review of the "Brittle Structures Map of the State of New York" indicated that there are no faults in the immediate vicinity of the dam.

b. Subsurface Investigations

No records of any subsurface investigations performed for this structure were available. The only subsurface information available was from a 1925 inspection report which stated that the foundation of the dam consisted of clay and hardpan.

2.2 DESIGN RECORDS

No records were available concerning the original design of this structure. An engineer's report and plans for the modifications made to the structure in 1965 were available. This design work was performed by Mr. Carl Crandall, P.E., of Ithaca, New York.

2.3 CONSTRUCTION RECORDS

No records exist for the original construction of this structure. A contract between the owner and the Les Strong Construction Company of Whitney Point, New York was available, and it described the repairs made to the dam in 1947. The same company made additional repairs in 1955. There were several photographs in the files which were taken during this construction. The only records from the 1965 modifications were the plans prepared by Mr. Crandall and photographs taken during construction.

2.4 OPERATION RECORDS

There are no regular operation records maintained for this structure.

2.5 EVALUATION OF DATA

Data available for the preparation of this report was somewhat limited. In addition, several of the dimensions shown on the plans, such as the size of the riser did not agree with the actual dimensions measured during the inspection.

SECTION 3: VISUAL INSPECTION

3.1 FINDINGS

a. General

Visual inspection of the Genegantslet Lake Dam was conducted on October 22, 1980. The weather was overcast and the temperature was in the forties. The water surface at the time of the inspection was 2.5 feet below the top of the drop inlet structure. Water was flowing over the stop logs inside the drop inlet.

b. Dam

Several deficiencies were observed on this structure. The most serious deficiency noted was the seepage exiting both on the downstream slope and at the toe. The most concentrated seepage was in the embankment section between the right abutment and the center of the dam where the laid up stone face is exposed. There was also leakage through the laid up stone portion in several locations.

Another deficiency noted was erosion of embankment material on the downstream slope at the left end of the dam near the headwall for the spillway conduit. This erosion was probably caused by flow over the top of the dam.

Brush and saplings growing on the embankment and some displaced stones on the laid up stone segment were other deficiencies noted on this structure.

c. Spillway

The drop inlet and the outlet conduits were in good condition. Trash racks over all openings on the drop inlet prevented debris from entering the spillway. These trash racks were properly maintained and there was no accumulation of debris around the drop inlet.

The outlet conduits were composed of sections of reinforced concrete pipe which were 4 feet long. Inspection of the pipe revealed that the individual sections were not fit together tightly. Furthermore, only the bottom third of the joints between sections had been mortared. There was no mortar in the remainder of each of the joints. There was some seepage into the pipe through several of the joints. The joints where seepage was observed were approximately midway between the outlet of the pipe and the buried manhole which is downstream of the drop inlet.

The conduit upstream of the drop inlet structure extends into the lake. It was submerged and could not be observed.

d. Reservoir

There was no indication of soil instability in the reservoir area.

e. Downstream Channel

The outlet channel from the spillway conduit ran along the downstream toe of the dam. This fact may have contributed to the erosion problem beyond the head wall. The channel contained riprap but the toe of the dam was not well protected.

3.2 EVALUATION OF OBSERVATIONS

Visual inspection of the dam revealed several deficiencies. The following items were noted:

1. Seepage both through the embankment section at the right end of the dam and the laid up stone section.
2. Erosion of embankment material on the downstream slope at the left end of the dam.
3. There were gaps between sections of the outlet pipe. Mortar had been placed only in the bottom third of these joints.
4. There was some brush and small trees growing on the embankment.
5. There were some displaced stones on the laid up stone portion of the dam.
6. The outlet channel from the spillway ran along the toe of the dam.

SECTION 4: OPERATION AND MAINTENANCE PROCEDURES

4.1 PROCEDURES

The only operating procedures for this structure involve the removal and replacement of stop logs in the drop inlet structure. Three stop logs each about (2 inch by 12 inch) are removed in October to lower the water surface during the winter months. In April, after the ice has gone out of the pond, the stop logs are replaced. When these stop logs are in place, the normal water level in the pond is about 1/2 foot below the crest of the drop inlet structure.

4.2 MAINTENANCE OF DAM

There are no formal maintenance procedures for this structure. Mr. Ulrichs of the Genegantslet Lake Association reported that brush and weeds are cleared annually.

4.3 WARNING SYSTEM IN EFFECT

No apparent warning system for evacuation of downstream residents is present.

4.4 EVALUATION

The operation procedures on this dam are generally satisfactory. The deficiencies noted on the structure are evidence of the need for additional maintenance efforts.

SECTION 5: HYDROLOGIC/HYDRAULIC

5.1 DRAINAGE AREA CHARACTERISTICS

Delineation of the watershed draining into the reservoir pool area was made using the 7 1/2 minute USGS quadrangle sheet for Pitcher, New York. The 5.04 square mile drainage area consists of wooded lands and open fields. Hilltops at the boundary of the drainage area range from elevation 1660 to elevation 1840. Relief within the drainage area is moderate to steep with steeper slopes in the eastern portion.

5.2 ANALYSIS CRITERIA

The analysis of the floodwater retarding capability of this dam was performed using the Crops of Engineers HEC-1 computer program, Dam Safety version. This program uses the Snyder Synthetic Unit hydrograph method and the "Modified Puls" flood routing procedure. The spillway design flood selected for analysis was the Probable Maximum Flood (PMF) in accordance with the recommended guidelines for the U.S. Army Corps of Engineers.

5.3 SPILLWAY CAPACITY

The spillway consists of a drop inlet structure with 48 inch pipes going into and out of it. Wood stop logs in the center of the drop inlet structure provide some control over the level of the lake.

The spillway capacity was calculated assuming that all of the stop logs were in place. The elevation of the stop log crest was thus the same as the upstream riser crest. The crest of the remainder of the riser was two feet higher and was assumed to be equal to the top of dam elevation. The total spillway capacity for a water surface at the top of the dam was 55 cfs.

5.4 RESERVOIR CAPACITY

Normal storage capacity of the reservoir with the water surface at the spillway crest and the top of the dam is an additional 219 acre feet which is equivalent to a direct runoff depth of 0.81 inches over the drainage area.

5.5 FLOODS OF RECORD

There was no data concerning the occurrence of the maximum known flood. It was stated in the Engineer's report, prepared for the 1965 modifications, that three feet of water flowed over the dam during a flood in the mid-thirties.

5.6 OVERTOPPING POTENTIAL

Analyses using the PMF and one half the PMF indicates that the dam does not have sufficient spillway capacity. The inflow from the PMF is 11741 cfs and the outflow is 11449 cfs. The dam would be overtopped to a computed depth of 5.91 feet for this storm event. For the peak outflow of one-half the PMF (5612 cfs), the depth of overtopping would be 3.63 feet. All storms exceeding 5% of the PMF will result in the dam being overtopped. It was apparent from the visual inspection that the dam is overtopped frequently.

5.7 EVALUATION

Using the Corps of Engineer's screening criteria for initial review of spillway adequacy, it has been determined that the dam would be overtopped by all storms exceeding 5% of the PMF. While the dam has withstood overtopping in the past, the fact that the structure is composed of earth fill and laid up stone makes overtopping undesirable. The very limited spillway capacity results in frequent overtopping and it cannot be assumed that this will not eventually cause the failure of the dam. Since a failure would increase the hazard to downstream residents over that which would exist just prior to the failure, the spillway capacity is adjudged to be seriously inadequate.

SECTION 6: STRUCTURAL STABILITY

6.1 EVALUATION OF STRUCTURAL STABILITY

a. Visual Observations

Visual observations revealed that there were several deficiencies on this structure which could affect the stability. Seepage through the dam at the right end and in the laid up stone portion was the most serious deficiency. Erosion of the embankment material on the downstream slope near the outlet to the spillway conduit was also noted. It appears that this erosion was caused by flow over the top of the dam. The outlet channel from the spillway flows along the toe of the embankment creating a potential stability problem.

b. Stability Evaluation

This structure is composed of earth fill and laid up stone. The earth completely covers the laid up stone at both ends of the dam, but in the center, the stone is exposed on the downstream face.

Due to the nature of the composition of this structure, a stability analysis was not considered to be feasible.

SECTION 7: ASSESSMENT/RECOMMENDATIONS

7.1 ASSESSMENT

a. Safety

The Phase 1 inspection of the Genegantslet Lake Dam revealed that the spillway capacity is seriously inadequate and outflows from all storms exceeding 5% of the Probable Maximum Flood would overtop the dam. While the dam has withstood overtopping in the past, this regarded as undesirable. Failure of the dam would increase the hazard to downstream residents. Therefore, this is assessed as unsafe, non-emergency.

In addition to the spillway inadequacy, other deficiencies were noted which affect the safety of the structure. The most serious of these was seepage through the dam exiting along a substantial portion of the downstream toe. There was also some erosion, probably caused by flow over the top of the dam.

b. Adequacy of Information

The information available for the preparation of this report was somewhat limited. Plans for the 1965 modifications were used, but some of the dimensions shown on these plans did not agree with measurements made at the time of the inspection.

c. Need for Additional Investigations

Since the spillway has been assessed as seriously inadequate, additional hydrologic/hydraulic investigations are required to more accurately determine the site specific characteristics of the watershed. Analysis will then be required to determine how to provide the additional spillway capacity needed.

Investigation into the seepage is also required. A method of either eliminating or controlling the seepage should be devised.

d. Urgency

The additional hydrologic and hydraulic investigations which are needed should be commenced within 3 months of the date of notification of the owner. Investigation into the seepage problem should also be commenced within 3 months.

Mitigating measures deemed necessary as a result of the investigation should be completed within 18 months of the date of notification. Other deficiencies should be corrected within 12 months.

7.2 RECOMMENDED MEASURES

a. After the hydrologic/hydraulic investigation has been completed, mitigating measures dealing with the seriously inadequate spillway should be undertaken.

b. After the investigation into the seepage problem has been completed, appropriate remedial actions should be taken.

c. The eroded area on the downstream slope at the left end of the dam should be refilled with compacted embankment material.

d. Gaps between sections of the outlet pipe should be filled with mortar.

e. The outlet channel from the spillway conduit should either be relocated away from the toe of the dam or lined with riprap to better protect the downstream toe.

f. Displaced stones on the laid up stone portion of the dam should be replaced.

g. Brush and small trees growing on the embankment should be cut.

h. An emergency action plan for the notification of downstream residents should be developed and implemented.

APPENDIX A

PHOTOGRAPHS



Crest of embankment



View Looking Along Crest; Exposed Laid-up
Stone on Downstream Face



Laid up Stone Exposed on Downstream Face



Laid up Stone Exposed on Downstream Face



Erosion Adjacent to Wingwall on
Spillway Conduit



Channel Leading From Spillway Conduit;
Flowing along Downstream Toe

Seeo



Seepage Emerging on Downstream Face Near
Right End of Structure

APPENDIX B

VISUAL INSPECTION CHECKLIST

VISUAL INSPECTION CHECKLIST1) Basic Data

a. General

Name of Dam GENEGANTSLET DAM
Fed. I.D. # 846 DEC Dam No. 940-3437
River Basin SUSQUEHANNA
Location: Town McDONOUGH County CHENANGO
Stream Name UN NAMED
Tributary of GENEGANTSLET CREEK
Latitude (N) 42° 31.5' Longitude (W) 75° 46.3'
Type of Dam EARTH & LAID UP STONE
Hazard Category C
Date(s) of Inspection 10/22/80
Weather Conditions 45° OVERCAST
Reservoir Level at Time of Inspection 2.45' BELOW TOP OF DROP INLET

b. Inspection Personnel R. WARRENDER W. LYNICK

c. Persons Contacted (Including Address & Phone No.)

GENEGANTSLET LAKE ASSOC.
SEC-TRES FRANK ULRICH
127 BROAD ST. (607) 334-3789
NORWICH, N.Y.

d. History:

Date Constructed ≈ 1900 Date(s) Reconstructed 1947-1955
1965
Designer 1965- CARL CRANDAL PE
Constructed By 1947 & 55 LES STRONG CO.
Owner GENEGANTSLET LAKE ASSOCIATION

2) Embankment

a. Characteristics

- (1) Embankment Material VARIABLE EARTH & ROCK
- (2) Cutoff Type NONE
- (3) Impervious Core NONE
- (4) Internal Drainage System NONE
- (5) Miscellaneous GRASS & SMALL BRUSH COVER

b. Crest

- (1) Vertical Alignment SOMEWHAT IRREGULAR - MIDDLE HALF IS LOWER THAN ENDS
- (2) Horizontal Alignment CURVILINEAR
- (3) Surface Cracks NONE - SOME RIVULETS WHERE MATERIAL HAS BEEN REMOVED DURING OVERTOPPING
- (4) Miscellaneous ● APPEARS TO HAVE BEEN OVERTOPPED RECENTLY - POSSIBLY SPRING OF 1980 *

c. Upstream Slope

- (1) Slope (Estimate) (V:H) 1:5 OR FLATTER
- (2) Undesirable Growth or Debris, Animal Burrows SOME CAT TAILS
- (3) Sloughing, Subsidence or Depressions NO

* DISCUSSION WITH F. ULRICH - HE SAID THAT LAST TIME DAM WAS OVERTOPPED WAS POSSIBLY FALL OF 1978

(4) Slope Protection VERY SMALL STONE ON SLOPE

(5) Surface Cracks or Movement at Toe NONE

d. Downstream Slope

(1) Slope (Estimate - V:H) VARIES 1:2 ON RIGHT END TO 1:5 OR FLATTER ON LEFT

(2) Undesirable Growth or Debris, Animal Burrows BRUSH & SAPLINGS
SPARSE GRASS - MORE LIKE WEEDS & MOSS

(3) Sloughing, Subsidence or Depressions ERODED AREAS NEAR
RCP OUTLET AT LEFT END - PROBABLY CAUSED BY
OVERTOPPING.

(4) Surface Cracks or Movement at Toe NONE

(5) Seepage ENTIRE RIGHT END NEAR & AT TOE FROM ABUTMENT
TO LAID UP STONE SECTION - ALSO SOME DOWNSTREAM
OF MASONRY SECTION

(6) External Drainage System (Ditches, Trenches; Blanket) NONE

(7) Condition Around Outlet Structure ADDITIONAL RIP RAP NEEDED
SOME SCOUR AT LEFT SIDE OF HEADWALL

(8) Seepage Beyond Toe NO - OUTLET STREAM RUNS ALONG
TOE.

e. Abutments - Embankment Contact

LEFT END SATISFACTORY

93-15-3(9/80)

(1) Erosion at Contact SOME MINOR EROSION AT RIGHT END

(2) Seepage Along Contact RIGHT ABUTMENT - ENTIRE TOE IS
WET, PONDED

3) Drainage System

a. Description of System NONE

b. Condition of System

c. Discharge from Drainage System

4) Instrumentation (Monumentation/Surveys, Observation Wells, Weirs,
Piezometers, Etc.)

NONE

5) Reservoir

a. Slopes WOODED TO EDGE OF LAKE

b. Sedimentation NOT NOTICIBLE

c. Unusual Conditions Which Affect Dam _____

6) Area Downstream of Dam

a. Downstream Hazard (No. of Homes, Highways, etc.) HOUSE 750' DOWNSTREAM
OF DAM - HOME ON STREAM BANK - 1 TRAILER & 6 HOUSES JUST UPSTREAM
OF STATE RTE 220

b. Seepage, Unusual Growth _____

c. Evidence of Movement Beyond Toe of Dam NONE

d. Condition of Downstream Channel BEYOND POINT WHERE IT TURNS
AWAY FROM DAM IT IS OKAY

7) Spillway(s) (Including Discharge Conveyance Channel)

SUBMERGED RESERVOIR INLET - LEADING TO DROP INLET WITH STOP LOGS
4' RCP CONDUIT

a. General SATISFACTORY CONDITION - DROP INLET OPENINGS
ARE FULLY PROTECTED WITH TRASH RACKS

CONDUIT WENT FROM D.I. TO A MANHOLE ABOUT 30', THEN
WENT 120' TO OUTLET. THERE WAS SLIGHT BEND IN PIPE AT ABOUT
60' FROM MANHOLE

b. Condition of Service Spillway CONDUIT JOINTS ARE SEVERAL
INCHES WIDE - (SECTIONS NOT FIT TOGETHER TIGHTLY)
THERE WAS NO MORTAR IN THE JOINTS IN THE UPPER
PORTION - ONLY THE BOTTOM $\frac{1}{3}$ HAD BEEN MORTARED.
THERE WAS SEEPAGE INTO PIPE ON SEAMS 9 & 10 FROM
MANHOLE INTO CONDUIT

c. Condition of Auxiliary Spillway NONE

d. Condition of Discharge Conveyance Channel RAN ALONG DOWNSTREAM
TOE OF DAM - RIPRAPPED NEAR OUTLET PIPE ALTHOUGH
MORE RIPRAP WAS NEEDED
BECOMES NATURAL CHANNEL 20' BOTTOM WIDTH
W/1:3 SS DEPTH 4' ROCK/BOULDER INVERT

8) Reservoir Drain/Outlet

Type: Pipe ✓ Conduit _____ Other _____

Material: Concrete ✓ Metal _____ Other _____

Size: 48" Length _____

Invert Elevations: Entrance 90.3 Exit 90

Physical Condition (Describe): _____ Unobservable ✓

Material: _____

Joints: _____ Alignment _____

Structural Integrity: _____

Hydraulic Capability: GOOD FOR A DRAIN

Means of Control: Gate _____ Valve _____ STOP LOGS
 Uncontrolled ✓

Operation: Operable ✓ Inoperable _____ Other _____

Present Condition (Describe): SATISFACTORY - THIS CAN BE USED
AS RES. DRAIN BY REMOVING ALL STOP LOGS

9) Structurala. Concrete Surfaces SATISFACTORY - ONLY CONCRETE ON D.I. & HEADWALLMASONRY - (CENTER SECTION) - SOME STONE DISPLACED - VEGETATION
GROWING THROUGHb. Structural Cracking NONEc. Movement - Horizontal & Vertical Alignment (Settlement) NONEd. Junctions with Abutments or Embankments N/Ae. Drains - Foundation, Joint, Face NONEf. Water Passages, Conduits, Sluices SATISFACTORYg. Seepage or Leakage SOME SEEPAGE THROUGH LAID UP
STONE SEGMENT

- h. Joints - Construction, etc. N/A
- i. Foundation N/A
- j. Abutments N/A
- k. Control Gates N/A
- l. Approach & Outlet Channels N/A
- m. Energy Dissipators (Plunge Pool, etc.) RIPRAP AT PLUNGE POOL OKAY BUT COULD USE MORE - COULD USE MORE ROCK ALONG ENTIRE TOE OF DAM
- n. Intake Structures SATISFACTORY
- o. Stability
- p. Miscellaneous

APPENDIX C

HYDROLOGIC/HYDRAULIC
ENGINEERING DATA AND COMPUTATIONS

CHECK LIST FOR DAMS
HYDROLOGIC AND HYDRAULIC
ENGINEERING DATA

1

AREA-CAPACITY DATA:

	<u>Elevation</u> (ft.)	<u>Surface Area</u> (acres)	<u>Storage Capacity</u> (acre-ft.)
1) Top of Dam	<u>101.3</u>	<u>114</u>	<u>1969</u>
2) Design High Water (Max. Design Pool)	<u> </u>	<u> </u>	<u> </u>
3) Auxiliary Spillway Crest	<u> </u>	<u> </u>	<u> </u>
4) Pool Level with Flashboards	<u> </u>	<u> </u>	<u> </u>
5) Service Spillway Crest	<u>99.3</u>	<u>105</u>	<u>1750</u>

DISCHARGES

	<u>Volume</u> (cfs)
1) Average Daily	<u>UNKNOWN</u>
2) Spillway @ Maximum High Water	<u>55</u>
3) Spillway @ Design High Water	<u>N/A</u>
4) Spillway @ Auxiliary Spillway Crest Elevation	<u>N/A</u>
5) Low Level Outlet	<u>N/A</u>
6) Total (of all facilities) @ Maximum High Water	<u>55</u>
7) Maximum Known Flood	<u>UNKNOWN</u>
8) At Time of Inspection	<u> </u>

CREST:

ELEVATION: 101.3Type: EARTH & LAID UP STONEWidth: 35' Length: 300'Spillover NONE

Location _____

SPILLWAY:

SERVICE

AUXILIARY

99.3

Elevation _____

DROP INLET

Type _____

6 ft x 6 ft

Width _____

Type of ControlV

Uncontrolled _____

Controlled:

Type
(Flashboards; gate) _____

Number _____

Size/Length _____

Invert Material _____

Anticipated Length
of operating service _____

Chute Length _____

Height Between Spillway Crest
& Approach Channel Invert
(Weir Flow) _____

HYDROMETEROLOGICAL GAGES:

Type : NONE

Location: _____

Records:

Date - NONE

Max. Reading - _____

FLOOD WATER CONTROL SYSTEM:

Warning System: NONE

Method of Controlled Releases (mechanisms):

REMOVE STOP LOGS DOWN TO BOTTOM
OF RISER STRUCTURE

DRAINAGE AREA: 5.04 SO. MI.

DRAINAGE BASIN RUNOFF CHARACTERISTICS:

Land Use - Type: FOREST & FIELD

Terrain - Relief: ROLLING HILLS

Surface - Soil: GLACIAL TILL

Runoff Potential (existing or planned extensive alterations to existing
(surface or subsurface conditions)

NONE

Potential Sedimentation problem areas (natural or man-made; present or future)

NONE

Potential Backwater problem areas for levels at maximum storage capacity
including surcharge storage:

Dikes - Floodwalls (overflow & non-overflow) - Low reaches along the
Reservoir perimeter:

Location: _____

Elevation: _____

Reservoir:

Length @ Maximum Pool _____ (Miles)

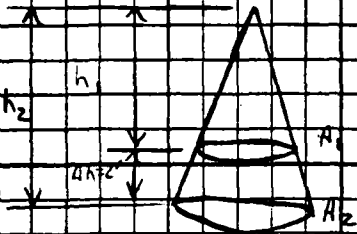
Length of Shoreline (@ Spillway Crest) _____ (Miles)

PROJECT GRID

JOB	GENE GANTSLET LAKE DAM	SHEET NO.	1	CHECKED BY		DATE	
SUBJECT	HYDROLOGIC / HYDRAULIC COMPUTATIONS			COMPUTED BY	RLW	DATE	12/8/80

DRAINAGE AREA - PLANIMETER FROM PITCHER, N.Y. QUAD
 $35.12 \text{ IN}^2 (41.83 \text{ AC/IN}^2) = 3225 \text{ AC} = 5.0450 \text{ MI.}$

SURFACE AREA - PLANIMETERED = 105 ACRES



$A_1 = \pi R_1^2 \Rightarrow R = \sqrt{\frac{A}{\pi}} = \sqrt{\frac{105(43560)}{\pi}} = 1207$
 $V_1 = \frac{\pi R^2}{3} h = \frac{(105)}{3} (50) = 1750 \text{ AC-FT}$
 $\frac{H}{V} = \frac{1207}{50} = 24 \text{ FT/FT}$
 $R_2 = 1207 + 2(24) = 1255$
 $A_2 = \pi R^2 = \pi (1255)^2 = 113.6 \text{ ACRES}$
 $V_2 = \frac{A}{3} h = \frac{113.6}{3} (52) = 1969 \text{ AC-FT}$

SNYDER SYNTHETIC UNIT HYDROGRAPH

$L = 3.45 \text{ mi}$ $L_{CA} = 1.1 \text{ mi}$ $C_t \rightarrow \text{USE } 2.0$

$t_p = C_t (L + L_{CA})^{.75} = 2.0 [(3.45) + (1.1)]^{.75} = 2.98 \text{ Hours}$

$t_p = \frac{2.98}{5.5} = .54$ $\text{USE } \frac{1}{2} \text{ HOUR}$

$t_{RR} = t_p + .25(t_e - t_p) = 2.98 + .25(.5 - .54) = 2.97$

$\text{TRFPC} = \text{T.F.} = 1 - \frac{.3008}{(5.04)} = .774$

PROJECT GRID

JOB	SHEET NO.	CHECKED BY	DATE
GENEGANTSLET LAKE DAM	2		
SUBJECT	COMPUTED BY		DATE
HYDROLOGIC/HYDRAULIC COMPUTATIONS	RLW		12/9/80

COMPUTED SPILLWAY CAPACITY

ELEVATIONS - USING PLAN DATUM

TOP OF DAM & TOP OF RISER 101.3

LOWER CREST OF RISER & TOP OF STOP LOGS 99.3

THREE FLOW CONDITIONS

1. FLOW OVER STOP LOGS
2. FLOW OVER BACK PORTION OF INTAKE STRUCTURE
3. FLOW THROUGH OUTLET PIPE

PROJECT GRID

JOB GENEGANSLET LAKE DAM	SHEET NO. 3	CHECKED BY	DATE
SUBJECT HYDRAULIC COMPUTATIONS		COMPUTED BY RLW	DATE 12/9/80

1. FLOW OVER STOP LOGS ASSUME SHARP CRESTED WEIR $C=3.2$

$$Q = CLH^{3/2} = (3.2)(6.1)(H)^{3/2}$$

W.S. ELEV.	H	Q
99.3	0	—
99.7	.4	4.9 cfs
100	.7	11
100.5	1.2	26
101	1.7	43
101.3	2	55
102	2.7	87
103	3.7	139

2. FLOW OVER BACK PORTION OF INTAKE STRUCTURE
WEIR LENGTH $L = 3 + 3 + 6.1 = 12.1$

$$Q = CLH^{3/2} = 3.1(12.1)(H)^{3/2} \quad \text{ASSUME SHARP CRESTED WEIR } C=3.1$$

W.S. ELEV.	H	Q
101.3	0	—
102	0.7	22 cfs
103	1.7	83

3. FLOW THROUGH OUTLET PIPE - 48" PIPE
ASSUME FULL CONDUIT FLOW FOR DROP INLET RISER
ASSUME INVERT OF OUTLET AT 90

$$A = \pi r^2 = \pi (3)^2 = 12.57 \text{ ft}^2$$

$$Q = A \sqrt{\frac{2gH}{1 + K_e + K_f + K_p}} = 12.57 \sqrt{\frac{2(32.2)H}{1 + .5 + .45 + (.00656)(45)}} =$$

W.S. ELEV.	H	Q
99.3	7.3	159 cfs
99.7	7.7	164
100	8	167
100.5	8.5	172
101	9	177
101.3	9.3	180
102	10	187
103	11	196
104	12	204
105	13	213
107	15	229

PROJECT GRID

JOB	GENEGANTSLET LAKE DAM		SHEET NO.	4	CHECKED BY		DATE	
SUBJECT	HYDRAULIC COMPUTATIONS				COMPUTED BY	RLW	DATE	12/9/80

STAGE - DISCHARGE TABLE	
STAGE	DISCHARGE
99.3	0 cfs
99.7	49
100	11
100.5	26
101	43
101.3	55
102	109
103	196 ← PIPE FLOW CONTROLS
104	264
105	213
107	229

FOR FLOW OVER TOP OF DAM ASSUME WEIR FLOW

$$Q = CLH^{3/2}$$

ASSUME BROAD CRESTED WEIR $C = 2.6$

CREST WIDTH = 35

KING & BRATER (SEE APPENDIX D) TABLE 5-3 p. 5-46

 FLOOD HYDROGRAPH PACKAGE (FHC-1)
 DAT SAFETY VERSION JULY 1976
 LAST MODIFICATION 20 FEB 79
 MODIFIED FOR HONEYWELL APR 79

 NEW YORK STATE
 DEPT OF ENVIRONMENTAL CONSERVATION
 FLOOD PROTECTION BUREAU

1 A1 GENCATSLUT LAKE DAM

2 A2 PHF WITH RATIOS

3 A3 OVERTOPPING ANALYSIS

4 B 200 C 30

5 B1 5

6 J 1 3 1

7 J1 .05 .5 1.0

8 K C 1

9 K1 INFLOW HYDROGRAPH

10 H 1 1 5.04 1

11 P C 20.5 111 123 132 142

12 T 1 .1

13 W 2.97 .625

14 X 10 10 1

15 K 1 1

16 K1 ROUTED HYDROGRAPH

17 Y 1 1

18 Y1 1 -59.3 -1

19 Y4 95.3 99.7 100 100.5 101 101.3 102 103 104 107

20 Y5 C 5 11 26 43 55 105 196 204 229

21 \$5 C 1750 1969

22 \$E 90.3 99.3 101.3

23 \$I 95.3

24 \$O 101.3 2.6 1.5 300

25 K 95

26 A

27 A

28 A

29 A

30 A

 FLOOD HYDROGRAPH PACKAGE (HFC-11)
 DAN SAFETY VERSION JULY 1974
 LAST MODIFICATION 26 FEB 75
 MODIFIED FOR DOWNEYELL APP 79

 NEW YORK STATE
 DEPT OF ENVIRONMENTAL CONSERVATION
 FLOOD PROTECTION BUREAU

RUN DATE 03/11/81

CONECAT ISLET LAKE DAM
 PPF WITH RATIOS
 OVERTOPPING ANALYSIS

JOB SPECIFICATION
 NO 000 RMR 0 KMIN 30 IDAY 0 INP 0 ININ 0 IETRO 0 IPLT 2 IPAT 0 INSTAN 0
 JOPER 5 JOPR 0 LROPT 0 TRACH 0

MULTI-PLAN ANALYSES TO BE PERFORMED
 NPLAN= 1 LRTIO= 3 LRTIO= 1
 RTIFS= 0.05 0.50 1.00

SUB-AREA RUNOFF COMPUTATION

INFLOW HYDROGRAPH
 1STAG 1 ICDHP 0 IECR 0 ITAPE 0 JPLT 0 JPRT 0 INAME 1 ISTAGE 0 IAUOT 0

HYDROGRAPH DATA
 1HYDG 1 IING 1 TAREA 5.04 SNAP 0.0 TRSDA 5.0% TRSPC 1.00 FATIC 0.0 ISHOW 0 ISAME 1 LOCAL 0

PRECIP DATA
 SPFE 0.0 PHS 20.50 R6 111.00 R42 123.00 R72 142.00 R96 0.0

LOSS DATA
 LROPT 0 STARR 0 DLTKR 0 RTIDL 1.00 ERAN 0.0 STICK 1.00 STRYL 1.00 CNSTL 0.10 ALSMX 0.0 RTIMP 0.0

UNIT HYDROGRAPH DATA
 TP= 2.97 CP=0.63 NTA= 0

RECESSION DATA
 STAT2= 10.00 QPCSK= 10.00 RTICR= 1.00
 APPROXIMATE CLARK COEFFICIENTS FROM GIVEN SYNCH CP AND TP ARE TC= 6.73 AND R= 5.36 INTERVALS

UNIT HYDROGRAPH 32 END-OF-PERIOD U-DIMATES, LAG= 2.95 HOURS, CP= 0.63 VOL= 1.00
 45. 104. 225. 495. 627. 697. 680. 592. 491. 407.
 334. 240. 192. 161. 132. 110. 51. 14. 75. 63.
 52. 42. 30. 25. 20. 17. 12. 10. 10. 10.
 9.

END-OF-PERIOD FLOW
 MJDA HP MIN PERIOD RAIN EXCS LOSS CUMP 1 NO. DA PR. MA PERIOD MAIN EXCS LOSS CUMP C
 1.01 0.30 1 0.00 0. 0.00 10. 1.03 2.30 101 0. 0. 1092.
 1.01 1.00 2 0.00 0. 0.00 10. 1.01 3.00 102 0. 0. 512.
 1.01 1.30 3 0.00 0. 0.00 10. 1.01 3.00 103 0. 0. 758.
 1.01 1.30 3 0.00 0. 0.00 10. 1.01 3.00 103 0. 0. 758.

[illegible]

1.02	12.00	72	0.21	0.10	0.05	12.1	1.04	15.00	172	0.	0.	0.	10.
1.02	12.30	73	1.11	1.00	0.05	12.7	1.04	14.40	173	0.	0.	0.	10.
1.02	13.00	74	1.11	1.00	0.05	12.7	1.04	15.00	174	0.	0.	0.	10.
1.02	13.30	75	1.37	1.32	0.05	14.14	1.04	15.30	175	0.	0.	0.	10.
1.02	14.00	76	1.37	1.32	0.05	15.22	1.04	16.00	176	0.	0.	0.	10.
1.02	14.30	77	1.71	1.66	0.05	16.24	1.04	17.30	177	0.	0.	0.	10.
1.02	15.00	78	1.71	1.66	0.05	16.56	1.04	17.00	178	0.	0.	0.	10.
1.02	15.30	79	2.03	2.03	0.05	17.2	1.04	17.30	179	0.	0.	0.	10.
1.02	16.00	80	6.37	6.52	0.05	18.23	1.04	17.00	180	0.	0.	0.	10.
1.02	16.30	81	1.23	1.54	0.05	18.53	1.04	18.30	181	0.	0.	0.	10.
1.02	17.00	82	1.53	1.54	0.05	18.77	1.04	19.00	182	0.	0.	0.	10.
1.02	17.30	83	1.25	1.20	0.05	18.83	1.04	19.30	183	0.	0.	0.	10.
1.02	18.00	84	1.25	1.20	0.05	18.96	1.04	20.00	184	0.	0.	0.	10.
1.02	18.30	85	0.09	0.04	0.05	18.91	1.04	20.30	185	0.	0.	0.	10.
1.02	19.00	86	0.09	0.04	0.05	18.74	1.04	21.00	186	0.	0.	0.	10.
1.02	19.30	87	0.09	0.04	0.05	18.759	1.04	21.30	187	0.	0.	0.	10.
1.02	20.00	88	0.09	0.04	0.05	18.22	1.04	22.00	188	0.	0.	0.	10.
1.02	20.30	89	0.09	0.04	0.05	18.51	1.04	22.30	189	0.	0.	0.	10.
1.02	21.00	90	0.09	0.04	0.05	18.56	1.04	23.00	190	0.	0.	0.	10.
1.02	21.30	91	0.09	0.04	0.05	18.17	1.04	23.30	191	0.	0.	0.	10.
1.02	22.00	92	0.09	0.04	0.05	18.36	1.05	0.	192	0.	0.	0.	10.
1.02	22.30	93	0.09	0.04	0.05	18.26	1.05	0.30	193	0.	0.	0.	10.
1.02	23.00	94	0.09	0.04	0.05	18.52	1.05	1.00	194	0.	0.	0.	10.
1.02	23.30	95	0.09	0.04	0.05	18.53	1.05	1.30	195	0.	0.	0.	10.
1.03	0.	96	0.09	0.04	0.05	18.30	1.05	2.00	196	0.	0.	0.	10.
1.03	0.30	97	0.	0.	0.	21.44	1.05	2.30	197	0.	0.	0.	10.
1.03	1.00	98	0.	0.	0.	18.18	1.05	3.00	198	0.	0.	0.	10.
1.03	1.30	99	0.	0.	0.	18.41	1.05	3.30	199	0.	0.	0.	10.
1.03	2.00	100	0.	0.	0.	18.01	1.05	4.00	200	0.	0.	0.	10.

SUM 29.11 25.36 3.75 166089.
(739.1) (644.1) (55.1) (4703.12)

PEAK	6-HRUP	24-HRUP	72-HRUP	TOTAL VOLUME
11741.	6947.	3315.	1150.	166083.
332.	253.	94.	33.	4703.
	16.51	24.48	25.46	25.54
	419.45	621.70	645.65	645.74
	4437.	6576.	6240.	6863.
	5473.	8111.	8437.	8465.

CFS
CMS
INCHES
MM
AC-FT
TPOUS CU M

INFLOW (1), OUTFLOW (2) AND CONSERVED FLOW (4)	
5000, 5000, 10000, 12000.	

[illegible]

[illegible]

HYDROGRAPH AT STA 1 FOR PLAN 1, PTC 1

PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL	VOLUME
577.	447.	166.	57.	836.	1.
17.	13.	5.	2.	235.	1.
	0.83	1.22	1.27	1,228	1.
	20.97	31.08	32.23	32.44	1.
	222.	329.	342.	243.	1.
	274.	406.	422.	423.	1.

HYDROGRAPH AT STA 1 FOR PLAIN 1, RTIC 2

[illegible]

TOTAL VOLUME
16003.
4703.
25.54
642.64
6263.
8465.

新華書店、各大書局均有代售

UNLUTED HYDROGRAPH.

TAGE 1AUTC.

0
KLS1

PRAT

107.00
229.00

EXPL
U.

3142

1111

END-OF-PERIOD HYDROGRAPH CASCINATES

100% OF THE TOTAL

	PLAS	ST-100	ST-100	72-100	TOTAL	VOLUME
CPS	20%	10%	1%	1%		5057.
CAS	6%	5%	2%	1%		166.
1-CAS		0.4%	0.60	0.50		0.90
AC-FI		7.66	15.22	26.01		22.98
TR-OLS CU M		11.	16.1	24.1		242.
		100.	199.	295.		259.

ST. YVES 1

REF ID: A63567

[illegible]

6,300	6,311	6,322	6,333	6,344	6,355	6,366	6,377	6,388	6,399	6,400	6,411	6,422	6,433	6,444	6,455	6,466	6,477	6,488	6,499	6,500	6,511	6,522	6,533	6,544	6,555	6,566	6,577	6,588	6,599	6,600	6,611	6,622	6,633	6,644	6,655	6,666	6,677	6,688	6,699	6,700	6,711	6,722	6,733	6,744	6,755	6,766	6,777	6,788	6,799	6,800	6,811	6,822	6,833	6,844	6,855	6,866	6,877	6,888	6,899	6,900	6,911	6,922	6,933	6,944	6,955	6,966	6,977	6,988	6,999	7,000	7,011	7,022	7,033	7,044	7,055	7,066	7,077	7,088	7,099	7,100	7,111	7,122	7,133	7,144	7,155	7,166	7,177	7,188	7,199	7,200	7,211	7,222	7,233	7,244	7,255	7,266	7,277	7,288	7,299	7,300	7,311	7,322	7,333	7,344	7,355	7,366	7,377	7,388	7,399	7,400	7,411	7,422	7,433	7,444	7,455	7,466	7,477	7,488	7,499	7,500	7,511	7,522	7,533	7,544	7,555	7,566	7,577	7,588	7,599	7,600	7,611	7,622	7,633	7,644	7,655	7,666	7,677	7,688	7,699	7,700	7,711	7,722	7,733	7,744	7,755	7,766	7,777	7,788	7,799	7,800	7,811	7,822	7,833	7,844	7,855	7,866	7,877	7,888	7,899	7,900	7,911	7,922	7,933	7,944	7,955	7,966	7,977	7,988	7,999	8,000	8,011	8,022	8,033	8,044	8,055	8,066	8,077	8,088	8,099	8,100	8,111	8,122	8,133	8,144	8,155	8,166	8,177	8,188	8,199	8,200	8,211	8,222	8,233	8,244	8,255	8,266	8,277	8,288	8,299	8,300	8,311	8,322	8,333	8,344	8,355	8,366	8,377	8,388	8,399	8,400	8,411	8,422	8,433	8,444	8,455	8,466	8,477	8,488	8,499	8,500	8,511	8,522	8,533	8,544	8,555	8,566	8,577	8,588	8,599	8,600	8,611	8,622	8,633	8,644	8,655	8,666	8,677	8,688	8,699	8,700	8,711	8,722	8,733	8,744	8,755	8,766	8,777	8,788	8,799	8,800	8,811	8,822	8,833	8,844	8,855	8,866	8,877	8,888	8,899	8,900	8,911	8,922	8,933	8,944	8,955	8,966	8,977	8,988	8,999	9,000	9,011	9,022	9,033	9,044	9,055	9,066	9,077	9,088	9,099	9,100	9,111	9,122	9,133	9,144	9,155	9,166	9,177	9,188	9,199	9,200	9,211	9,222	9,233	9,244	9,255	9,266	9,277	9,288	9,299	9,300	9,311	9,322	9,333	9,344	9,355	9,366	9,377	9,388	9,399	9,400	9,411	9,422	9,433	9,444	9,455	9,466	9,477	9,488	9,499	9,500	9,511	9,522	9,533	9,544	9,555	9,566	9,577	9,588	9,599	9,600	9,611	9,622	9,633	9,644	9,655	9,666	9,677	9,688	9,699	9,700	9,711	9,722	9,733	9,744	9,755	9,766	9,777	9,788	9,799	9,800	9,811	9,822	9,833	9,844	9,855	9,866	9,877	9,888	9,899	9,900	9,911	9,922	9,933	9,944	9,955	9,966	9,977	9,988	9,999	10,000	10,011	10,022	10,033	10,044	10,055	10,066	10,077	10,088	10,099	10,100	10,111	10,122	10,133	10,144	10,155	10,166	10,177	10,188	10,199	10,200	10,211	10,222	10,233	10,244	10,255	10,266	10,277	10,288	10,299	10,300	10,311	10,322	10,333	10,344	
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[illegible][illegible][illegible]

1. FLO. (1), 'OUTFLOW (1) AND DISCHARGE FLOW (2)'

C.	1000.	2000.	3000.	4000.	5000.	6000.	C.	C.	C.	C.	C.	C.
0.30	11	.	.	.	.	.	11	.	.	.	.	11
1.30	21	.	.	.	.	.	21	.	.	.	.	21
2.30	31	.	.	.	.	.	31	.	.	.	.	31
3.30	41	.	.	.	.	.	41	.	.	.	.	41
4.30	51	.	.	.	.	.	51	.	.	.	.	51
5.30	61	.	.	.	.	.	61	.	.	.	.	61
6.30	71	.	.	.	.	.	71	.	.	.	.	71
7.30	81	.	.	.	.	.	81	.	.	.	.	81
8.30	91	.	.	.	.	.	91	.	.	.	.	91
9.30	101	.	.	.	.	.	101	.	.	.	.	101
10.30	111	.	.	.	.	.	111	.	.	.	.	111
11.30	121	.	.	.	.	.	121	.	.	.	.	121
12.30	131	.	.	.	.	.	131	.	.	.	.	131
13.30	141	.	.	.	.	.	141	.	.	.	.	141
14.30	151	.	.	.	.	.	151	.	.	.	.	151
15.30	161	.	.	.	.	.	161	.	.	.	.	161
16.30	171	.	.	.	.	.	171	.	.	.	.	171
17.30	181	.	.	.	.	.	181	.	.	.	.	181
18.30	191	.	.	.	.	.	191	.	.	.	.	191
19.30	201	.	.	.	.	.	201	.	.	.	.	201
20.30	211	.	.	.	.	.	211	.	.	.	.	211
21.30	221	.	.	.	.	.	221	.	.	.	.	221
22.30	231	.	.	.	.	.	231	.	.	.	.	231
23.30	241	.	.	.	.	.	241	.	.	.	.	241
24.30	251	.	.	.	.	.	251	.	.	.	.	251
25.30	261	.	.	.	.	.	261	.	.	.	.	261
26.30	271	.	.	.	.	.	271	.	.	.	.	271
27.30	281	.	.	.	.	.	281	.	.	.	.	281
28.30	291	.	.	.	.	.	291	.	.	.	.	291
29.30	301	.	.	.	.	.	301	.	.	.	.	301
30.30	311	.	.	.	.	.	311	.	.	.	.	311
31.30	321	.	.	.	.	.	321	.	.	.	.	321
32.30	331	.	.	.	.	.	331	.	.	.	.	331
33.30	341	.	.	.	.	.	341	.	.	.	.	341
34.30	351	.	.	.	.	.	351	.	.	.	.	351
35.30	361	.	.	.	.	.	361	.	.	.	.	361
36.30	371	.	.	.	.	.	371	.	.	.	.	371
37.30	381	.	.	.	.	.	381	.	.	.	.	381
38.30	391	.	.	.	.	.	391	.	.	.	.	391
39.30	401	.	.	.	.	.	401	.	.	.	.	401
40.30	411	.	.	.	.	.	411	.	.	.	.	411
41.30	421	.	.	.	.	.	421	.	.	.	.	421
42.30	431	.	.	.	.	.	431	.	.	.	.	431
43.30	441	.	.	.	.	.	441	.	.	.	.	441
44.30	451	.	.	.	.	.	451	.	.	.	.	451
45.30	461	.	.	.	.	.	461	.	.	.	.	461
46.30	471	.	.	.	.	.	471	.	.	.	.	471
47.30	481	.	.	.	.	.	481	.	.	.	.	481
48.30	491	.	.	.	.	.	491	.	.	.	.	491
49.30	501	.	.	.	.	.	501	.	.	.	.	501
50.30	511	.	.	.	.	.	511	.	.	.	.	511
51.30	521	.	.	.	.	.	521	.	.	.	.	521
52.30	531	.	.	.	.	.	531	.	.	.	.	531
53.30	541	.	.	.	.	.	541	.	.	.	.	541
54.30	551	.	.	.	.	.	551	.	.	.	.	551
55.30	561	561	561
56.30	571	571	571
57.30	581	581	581
58.30	591	591	591
59.30	601	601	601

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7.00 021
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8.00 041
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8.00 151
8.00 161
8.00 171
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8.00 191
8.00 201
8.00 211
8.00 221
8.00 231
8.00 241
8.00 251
8.00 261
8.00 271
8.00 281
8.00 291
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8.00 461
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8.00 481
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1, PLATE 1. FATIC 3

SUBJECTS

[illegible][illegible][illegible]

101.2	101.2	101.0	101.0	101.1	101.1	101.1	101.0	100.9	100.9
101.3	101.3	101.0	101.0	101.2	101.2	101.2	101.0	100.9	100.9
100.9	100.9	100.9	100.9	100.7	100.7	100.7	100.9	100.7	100.7
100.8	100.8	100.8	100.8	100.5	100.5	100.5	100.8	100.7	100.7
100.7	100.7	100.7	100.7	100.7	100.7	100.7	100.7	100.6	100.6
100.6	100.6	100.6	100.6	100.6	100.6	100.6	100.6	100.6	100.6
100.5	100.5	100.5	100.5	100.5	100.5	100.5	100.5	100.5	100.5

PEAK OUTPUT IS 1149. AT TIME 43.00 HOURS

CFS	PEAK	W-11.0	26-W-11.0	72-W-11.0	TOTAL VOLUME
11449.	8418.	2204.	1124.	162521.	
324.	250.	93.	32.	4613.	
	16.2	24.32	24.38	25.00	
	413.41	617.61	634.44	630.49	
	4373.	6533.	6711.	6732.	
	5394.	8053.	8278.	8304.	

TOTALS CUM

STATION 1

	I-FLU (I),	OUTFLOW (O) AND OBSERVED FLOW (F)
Year.	2016.	2020.
	0.000.	10007. 12000.

0.	1000.	2000.	3000.	4000.	5000.	6000.	7000.	8000.	9000.	10000.	11000.	12000.	13000.	14000.	15000.	16000.	17000.	18000.	19000.	20000.
0.30	11																			
1.00	21																			
1.30	31																			
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6.00	121																			
6.30	131																			
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0.00	4001																			
0.30	4101																			
1.00	4201																			
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PEAK FLOW AND STORAGE (CUMULATIVE PERIOD) SUMMARY FOR MULTIPLE PLAN-RATIO ECONOMIC COMPUTATIONS
 FLOWS IN CUBIC FEET PER SECOND (CUBIC FEET PER SECOND)
 AREA IN SQUARE MILES (SQUARE KILOMETERS)

OPERATION	STATION	AREA	PLAN	RATIOS APPLIED TO FLOWS		
				RATIO 1	RATIO 2	RATIO 3
HYDROGRAPH AT	1	5.04	1	5.04	5.04	117.1
	(0.30E 19)		(	16.62)	(166.24)	(332.48)
ROUTED TO	1	5.04	1	204.	5612.	11449.
	(0.30E 19)		(	5.78)	(150.92)	(324.19)

SUMMARY OF DAM SAFETY ANALYSIS

PLAN 1

RATIO OF P/F	MAXIMUM RESERVOIR ELEVATION STORAGE OUTFLOW	INITIAL VALUE 99.30 1750. 0.	SPILLWAY CREST 95.30 1750. 0.	TCP OF DAM 101.30 1969. 55.	DURATION OVER TCP HOURS	MAXIMUM OUTFLOW CFS	MAXIMUM STORAGE AC-FT	MAXIMUM DEPTH OVER DAM	TIME OF MAX OUTFLOW HOURS	TIME OF FAILURE HOURS
0.05	101.00				10.50	204.	2001.	0.30	46.50	0.
0.50	104.93				23.50	5612.	2367.	3.63	43.00	0.
1.00	107.21				29.00	11449.	2617.	5.91	43.00	0.

APPENDIX D
REFERENCES

APPENDIX D

REFERENCES

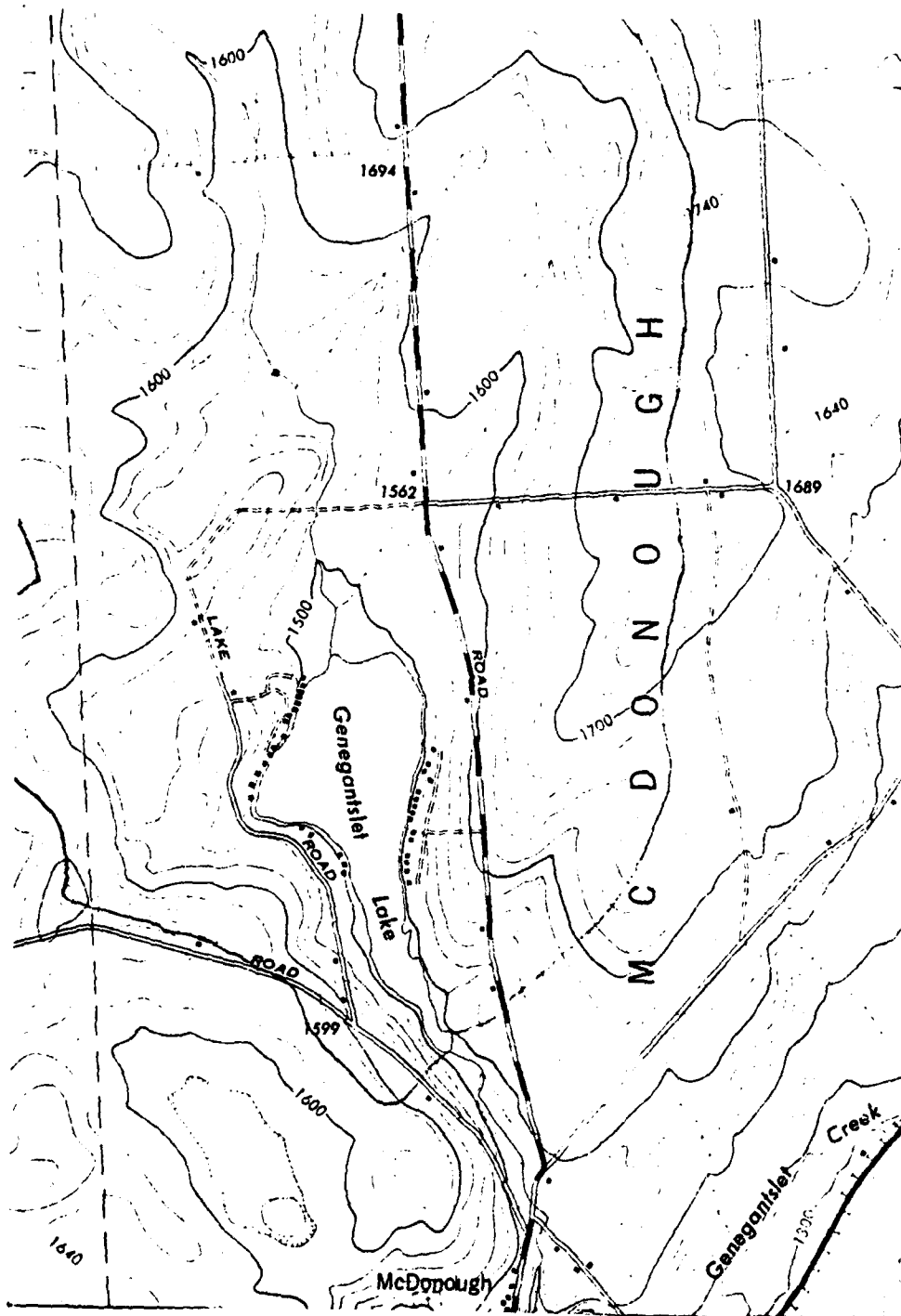
- 1) U.S. Department of Commerce; Weather Bureau;
Hydrometeorological Report No. 33 - Seasonal Variation of the Probable
Maximum Precipitation East of the 105th Meridian for Areas from 10 to
1,000 Square Miles and Durations of 6, 12, 24, and 48 Hours, April 1956.
- 2) H.W. King and E.F. Brater, Handbook of Hydraulics, 5th edition,
McGraw-Hill, 1963.
- 3) University of the State of New York, Geology of New York, Education
Leaflet 20, Reprinted 1973.
- 4) Elwyn E. Seelye, Design, 3rd edition, John Wiley and Sons, Inc., 1960.
- 5) U.S. Department of the Interior, Bureau of Reclamations;
Design of Small Dams, 2nd edition (rev. reprint), 1977.

APPENDIX E
DRAWINGS

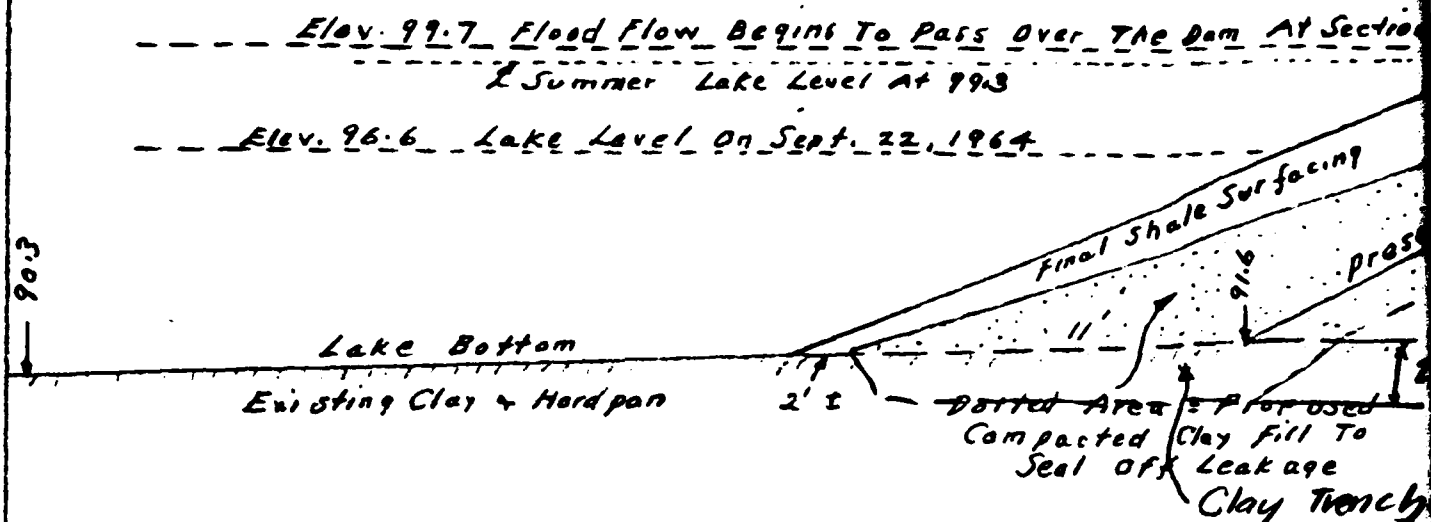


DAM SITE

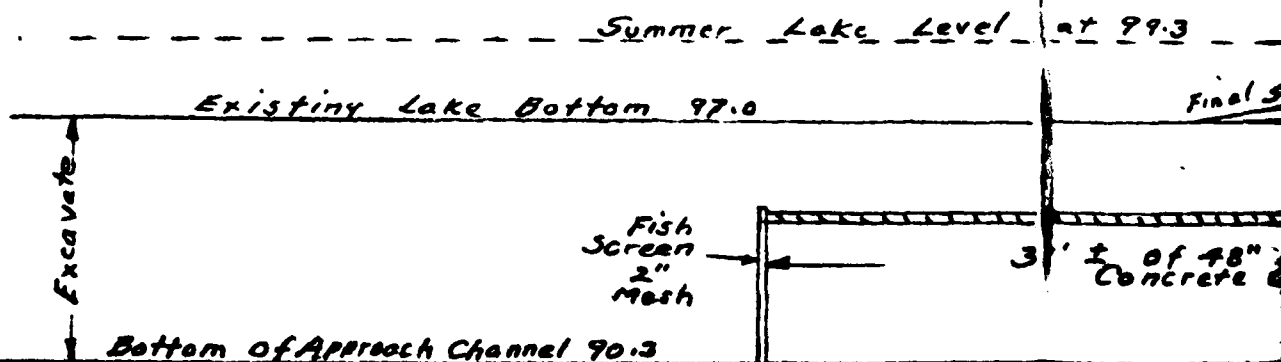
VICINITY MAP
GENEGANTSLET LAKE DAM
I.D. No. NY 846



TOPOGRAPHIC MAP
GENEGANTSLET LAKE DAM
I.D. No. NY 846

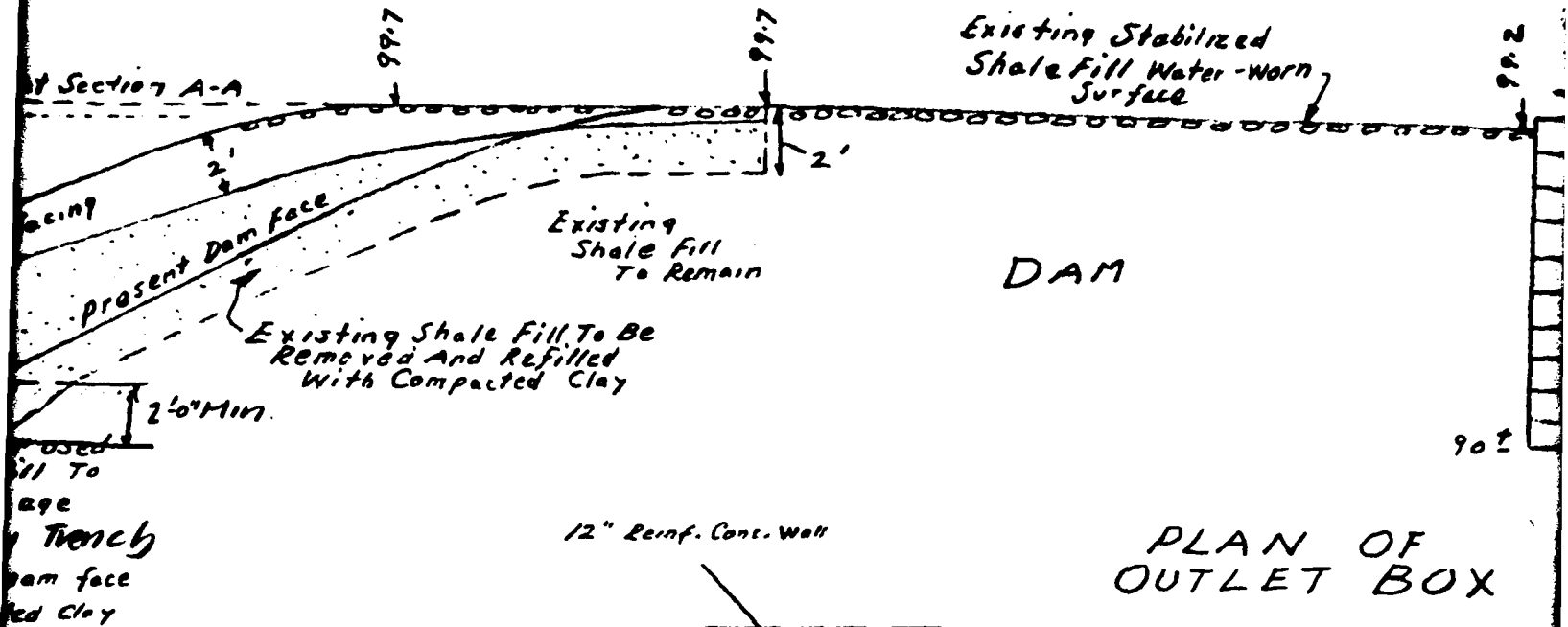


NOTE: Any existing holes or weak spots found in stream face
 of dam or lake bottom to be sealed with compacted clay
 before placing the new clay fill layer on to dam

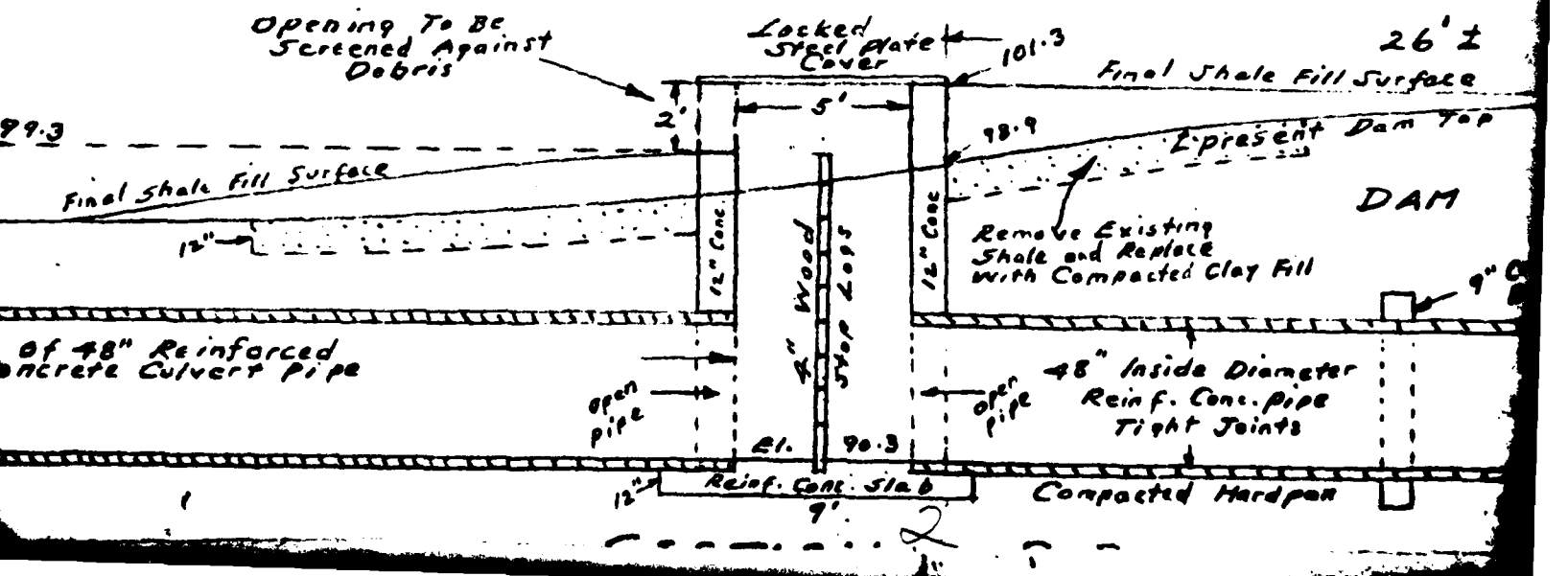
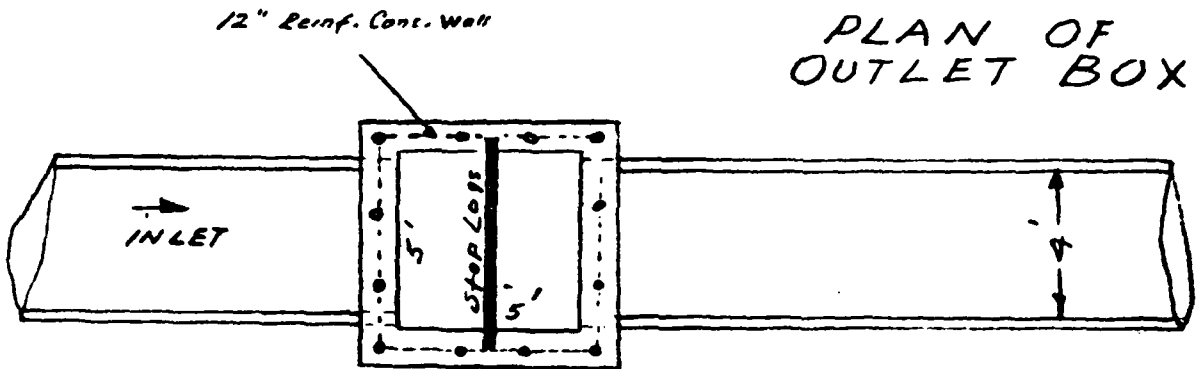


Approach Channel To Have Minimum Bottom Width of 20 ft. and
 Side Slopes Not Steeper Than 2 Horizontal To 1 Vertical. Channel
 To Be Located So As To Drain Lake Down To Elevation 90.3

SECTION A-A



PLAN OF OUTLET BOX



GENEGANTSLET LAKE DAM
McDONOUGH, N.Y.

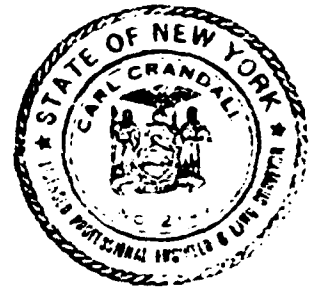
PROPOSED REPAIRS
AND
IMPROVEMENTS

SCALE 1" = 5' Horiz. and Vertical

Oct. 10, 1964 - Revised July 22, 1965

DRAWN BY Carl Crandall, C.E.
Ithaca, N.Y.

See Also Survey Map
Exhibit No. 9



STATE OF NEW YORK
DEPARTMENT OF PUBLIC WORKS
SUBDIVISION OF WATERWAY OPERATION
AND MAINTENANCE
ALBANY, N. Y. 12226

NEW DESIGNATION NO. 94D-3437 (orig #495)

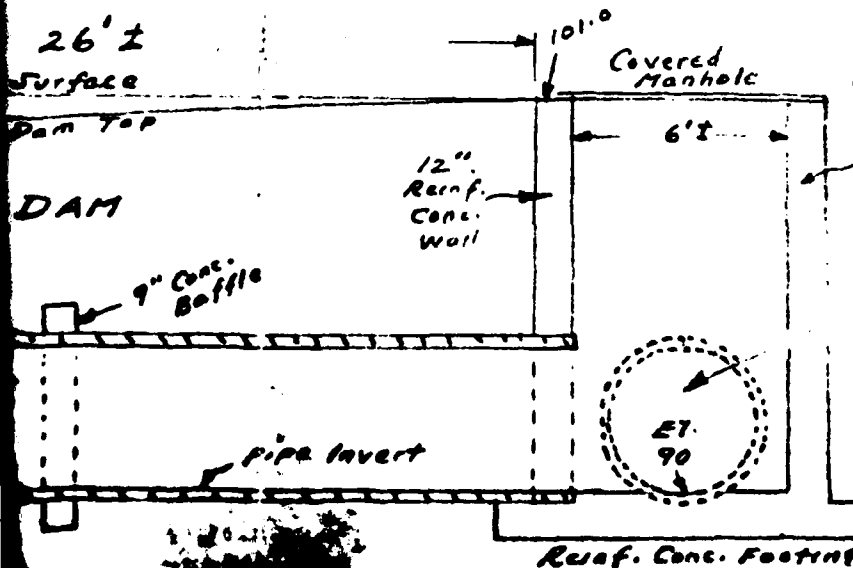
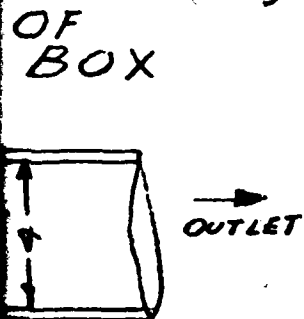
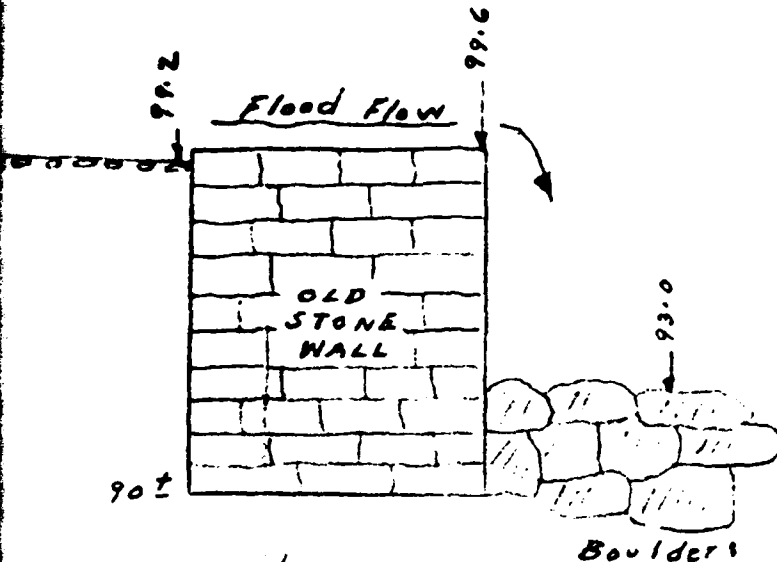
12" Reinf. Conc. Wall
WATERSHED Susquehanna River

Pursuant to the provisions of Section 948 of the Conservation Laws the design, details and specifications for the construction of the structure shown on these plans are hereby approved.

Date August 12, 1965

Reviewed by John E. Peck
Senior Civil Engineer

APPROVED by E.C. Hrusakowski
Assistant Superintendent



END

DATE
FILMED

11-81

DTIC